

WHAT IS CLAIMED IS:

1. A method for providing a peripheral device virtual functionality overlay for a data library, said method comprising:

intercepting commands to a library data transfer element within a bridge disposed between a command initiator and said library;

5 passing through commands that can be carried out by said data transfer element to said data transfer element; and

executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element.

2. The method of claim 1 wherein said data library is partitioned.

3. The method of claim 1 further comprising:
responding to said initiator as a data transfer element capable of carrying out said command.

4. The method of claim 1 further comprising:
comparing a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element.

5. The method of claim 4 further comprising:
maintaining said list of unique host device identifiers in said bridge.

6. The method of claim 4 wherein said unique host device identifiers are fiber channel world wide names.

7. The method of claim 4 wherein said unique host device identifiers are internet small computer systems interface names.

8. The method of claim 1 further comprising:
determining which data transfer element in said library said command is directed to by using a look up table maintained on said bridge.

9. The method of claim 8 wherein said determining step is carried out at least in part based on a unique host device identifier associated with said initiator.

10. The method of claim 1 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

11. The method of claim 1 wherein said initiator is a host connected to a storage area network wherein said storage area network is comprised at least in part of said data library.

12. A peripheral device virtual functionality overlay system for a partitioned data library, said overlay system comprising:

a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library; and

a bridge disposed between a storage area network and said partitioned data library, wherein said bridge comprises firmware that uses said lookup table to determine whether a host initiating commands directed to a data transfer element of said library is authorized to issue commands to said data transfer element, wherein said bridge firmware passes through to said data transfer element authorized commands that can be carried out by said data transfer element and wherein said bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element.

13. The system of claim 12 wherein said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command.

14. The system of claim 12 wherein said unique host device identifiers are fiber channel world wide names.

15. The system of claim 12 wherein said unique host device identifiers are internet small computer systems interface names.

16. The system of claim 12 wherein an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host.

17. The system of claim 12 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics.

18. A partitioned storage area network with an attached data library, said network comprising:

a data storage array divided into partitions;

said library comprising:

a plurality of library partitions corresponding to said array partitions;

a plurality of data transfer elements each of said data transfer elements assigned to one of said library partitions;

a plurality of data storage element slots, each of said slots assigned to one of said library partitions; and

a library controller that defines a virtual controller for each of said library partitions, said virtual controllers directing movement of data storage media to and from slots assigned to a same of said partitions and to and from data transfer elements assigned to a same of said partitions, said slots and said data transfer elements assigned to a same of said partitions; and

at least one bridge disposed between said array and said library, wherein said bridge passes through authorized commands that can be carried out by one of said data transfer elements to said one data transfer element and wherein said bridge intercepts commands directed to said one data transfer element that cannot be carried out by said one data transfer element and executes said commands that cannot be carried out by said one data transfer element.

19. The network of claim 18 wherein said bridge comprising a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library.

20. The network of claim 19 wherein said unique host device identifiers are fiber channel world wide names.

21. The network of claim 19 wherein said unique host device identifiers are internet small computer systems interface names.

22. The network of claim 19 wherein an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host.

23. The network of claim 18 wherein said bridge responds to a host initiating a command that cannot be carried out by said one data transfer element as a data transfer element capable of carrying out last said command.

24. The network of claim 18 wherein said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression
5 commands, data encryption commands, and provision of statistics.

25. The network of claim 18 wherein data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions.

26. The network of claim 18 wherein said at least one bridge is a fiber channel-to-small computer networks interface bridge.